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SOCIAL NETWORKS AND ELECTRONIC COMMERCE IN CHINA*

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Communications technologies that make up the emerging global information infrastructure have the power to regulate online behavior. Social networks in Chinese society have survived the growth of formal legal institutions and liberalization of China's economy, but it is not clear whether they can survive the regulatory pressures created by global information technology networks. The spread of electronic commerce technologies in China may strengthen legal institutions and open local markets to international competition, but is likely to be resisted by all the same interests that resist those changes in other contexts. The Chinese response to the spread of electronic commerce might take several forms: assimilation; marginalization; or localization of new forms of commercial activity that rely on new technologies.

1. INTRODUCTION

The Impact of Information Technology on Social Networks and Civil Society

Social networks have played a crucial role in China's move to a market economy, in some instances providing a complementary alternative to law and in others, undermining the development of autonomous legal institutions (Lubman 1999: 113-118; Wank 1999: 93-115). In the economic analysis of law in Western societies, the role of "social norms" in filling gaps in the normative framework of markets is now well recognized and generally accepted (Cooter 1996; Posner 2000). Social networks in China provide an alternative to legal regulation of market behavior in many contexts, by providing incentives to cooperative behavior and creating a flexible framework for sharing risks. When social networks

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reinforce the independence of party-state administration from legal constraints, clientalist state-society relations, or corrupt practices by individuals within government, however, they may subvert efforts to develop China's legal institutions (Peerenboom 2003).

Information technology has the power to transform both civil society and the market in developed and developing countries alike (UNCTAD 2001). In the U.S. and European Union, the growth of computer networks has led first to the creation of a new public space online, followed quickly by a tidal wave of special interest legislation designed to "propertize" many elements of that public space (Lessig 2001; Reidenberg 1996; Shapiro & Varian 1999). It remains to be seen whether the vigorous, participatory environment created by the early, non-commercial use of the Internet can survive the current efforts of content owners to build a closed architecture that controls individual access to content and online behavior. Given that countries that are more advanced than China in implementing electronic commerce technologies, such as the U.S. or European Union member states, do not yet have coherent, systematic responses to the challenges that these developments pose to their social, economic and political institutions, it should come as no surprise to find that China is far from articulating a coherent response in this area as well.

PRC policies toward the expansion of open computer network systems have proceeded from very different premises than those of Western nations (Fan 2001; Wang 2001). Advancing Chinese use of science and technology has been a fundamental element of China's modernization program for two decades, and the PRC has enthusiastically embraced the use of information technology whenever it can be used in service of the larger goal of economic modernization. Unlike the decentralized Internet that exists outside of China, the PRC government has established a strict hierarchy of network connections with strict government control over the primary gateway between China and the rest of the world. Internet service providers require a government license, and may only provide access through this portal, in effect giving the government the power to filter and block access to any materials deemed dangerous. Thus online activity in China in principle at least can only take place under the watchful eye of the central state. While this is intended to have a profoundly chilling effect on private activities not officially condoned by the state, it is also intended to leave network access available for economic as opposed to social or political activities.

China's accession to the WTO will put it under pressure to conform its law and market behaviors to the new "propertized" vision of cyberspace that is emanating from the U.S. and EU (Kong 2001). The Agreement on Trade Related Aspects of Intellectual Property (TRIPS) requires developing countries to enact laws protecting intellectual property rights along the lines of laws already existing in developed countries, and to establish mechanisms for the effective enforcement

of those rights. While China has been engaged in a process of revising its IPR (Intellectual Property Rights) laws for many years, it is long way from creating an environment in which IPR of either foreign or domestic owners are accorded anything like the respect they enjoy in Western countries (Alford 1995). Unlike the much weaker dispute resolution mechanism used under GATT, which permitted a losing party to refuse to comply with decisions it did not find acceptable, the dispute resolution mechanism of the WTO will give China's trading partners the ability to compel Chinese compliance with WTO requirements or face sanctions.

China thus faces pressure to permit the "propertization" of its online environment to proceed in a manner similar to that taking place in the West. But in China this would take place largely for the benefit of foreign IPR owners at the expense of local users of content, at least until China's own information technology industries are more competitive globally. China's leaders have recognized the threat that strong enforcement of IPR raises to its autonomy in enforcing economic policies in technology markets, and so has publicly expressed support for projects such as open source software, which if successful, can limit the market power of proprietary technology and software. Unlike many other developing countries, China's overall strategy with regard to the development of strong IPR as a mechanism to provide incentives for technological innovation is doubtless colored by their confidence that China is poised to emerge as an exporter of IPR in the not-too-distance future.

The leaders of China have recognized certain risks to the political status quo that the penetration of information technology into Chinese society poses, such as the increased potential for collective social activity outside state control of state, or growing foreign control of the network architecture through strong IPR enforcement. A similar threat lurks within an arena that China's leaders may not yet perceive as threatening the maintenance of the status quo. This new, as yet unperceived threat grows out of advances in electronic commerce technology that will control the process of negotiating and forming contracts using networked computers.

Application of contract law in China, and the observance of formal Western market norms regarding the negotiation and formation of contracts are often subordinated either to the discretion reserved to state actors or to the requirements of participants in social networks. New contract technologies will be based on the premise that formal contract law and formal Western market norms are universally observed in global networks and will thus require contracting parties to conform their behavior to those norms as a condition to use of the new technologies. Unlike earlier generations of electronic commerce technologies that merely communicated specific information relevant to performing contracts, such as price and quantity terms or product numbers, new electronic contracting technologies are designed to displace the activities of human intermediaries such as trading company staff or

sales representatives. If Chinese firms must use such new technologies in order to preserve their access to global markets, they will experience unprecedented levels of pressure to standardize the internal operations of firms to Western "global" norms of business administration. This will reduce the scope of firm manager's discretion to defer to state authority or to accommodate colleagues participating in social networks.

This pressure to formalize and standardize firm behavior based on Western business administration norms will reinforce Chinese policies to strengthen legal institutions and open local markets to international competition, and will be resisted by all the same interests that resist those changes in other contexts. The Chinese response to this pressure might take several forms: assimilation, or adapt business practices to make them conform to Western or global norms; marginalization, or refrain from further opening of local markets to the extent that opening would require conformity with foreign business customs; or localization, or the modification of new electronic commerce technologies to make them compatible with local business customs in addition to or in lieu of foreign business customs. These possible responses are considered in more detail in Section 4, below.

2. SOCIAL NETWORKS, COMMERCIAL ACTIVITY AND ELECTRONIC COMMERCE

The role of social networks in ordering economic activity has been recognized in empirical studies of economic activity in both the West and in China (Lew 2003, Li 2003; Peerenboom, 2003, Macauley 1963, Williamson 1985). Assimilating empirical insights into the importance social networks in practice into theoretical constructs has been a longstanding challenge to the study of law and economics. One approach treats social norms as an additional source of regulation that can reinforce law and private ordering within legal frameworks through contracts (Cooter 1995). Another notes that social networks may constitute relational contracts, a sort of intermediate economic institution between the atomistic market contract and the bureaucratic firm (Williamson 1985, Winn 1994). However the economic ordering provided by social networks is characterized, the adoption of new electronic contracting technologies will have a significant effect on the vitality and scope of social networks in regulating commercial transactions (Winn 2002a). While it is not yet clear how the introduction of norms embodied in electronic commerce will change the existing mix of law, contract and relationship, it seems likely to accentuate the formal at the expense of the informal (Winn 2002b).

Deference to social networks is clearly an important social norm in Chinese society, but it may be a social norm of a different character than many of social

norms identified and analyzed in the context of U.S. economic activity. U.S. economic behavior seems to take place within the context of social norms that concede a fundamental legitimacy to law, while Chinese economic behavior seems to privilege informal norms at the expense of formal law. Thus the substance of social norms in China and the U.S. may differ significantly both with regard to the substance of the social norms as well as the implicit hierarchy of social norms and law itself. While social norms are an essential part of the regulatory fabric of life in Western nations such as the U.S., it seems likely that in some sense they are a more fundamental, persistent and pervasive source of economic order in China than in the U.S. While the persistence of social networks may have impeded the post-1978 development of formal legal institutions in China right up to the present, it is unclear whether they will prove as resilient in resisting the encroachment of norms embodied in technology.

The economic consequences of social networks can also be analyzed in terms of the transaction costs imposed by different forms of economic organizations. From the perspective of institutional economics, rational economic actors will choose between contracts negotiated in competitive markets and bureaucratic mechanisms for allocating resources with a view to minimizing the transaction costs. Relational contracts occupy an intermediate form of institution for allocating resources which is less atomistic and discrete than contracts formed under competitive market conditions but is more flexible than displacing the market altogether with a bureaucratic structure (Williamson 1985). In an environment in which institutions supporting the enforcement of legal entitlements or supporting the exercise of autonomy of firms are underdeveloped, reliance on relationships may be an effective strategy for reducing transaction costs of economic activity. Whether relational contracts formed within social networks persist as an important Chinese economic institution may depend on the vigor of alternative institutions as well as the ability of social networks to accommodate the new challenges posed by the growing scale and sophistication of economic activity in China generally (Li 2003).

With regard to the growth of the information economy and a global information infrastructure, it is important to note that formal institutions seem to be more compatible with these new institutions than those based on relationships and social networks. This is due in large part to the manner in which information flows through markets, firms and relational contracts respectively. The sharing of information within relational contracts takes place under very different circumstances than it does in markets or firms. Relationships lack transparency because the exchange of information is one type of value transfer that takes place within the network and that reinforces the viability of the relationship itself. Disseminating information without insisting on a tight nexus of reciprocity would tend to erode the vitality of the relationship by directing value flows to channels

outside the relationship. By contrast, the free, public circulation of information about transactions is a hallmark of markets; formalism and accountability that standardize and audit information flows to assure their accessibility and reliability are hallmarks of effective bureaucratic organization.

Electronic commerce technologies are used in networked markets so they may be subject to "network effects." Network effects arise if the value to one user of a network service increases based on the number of other users there are on the network, but there is no way to collect this increased value associated with growth of the network from individual users. When network effects are strong, then individual users of the network will resist changes either to a new network or to aspects of the network if those changes bring a risk of reducing the number of users on the network. This resistance to change, including even changes that clearly improve the welfare of network users on an individual basis, once a network is up and running and has a large number of users may lead to "lock in" (Shapiro and Varian 1999). Once specific norms are embedded in the network architecture of global markets, it may become more difficult to change those norms after they are adopted than it was to get them accepted in the first place if lock in is a problem.

The risk that global markets will become "locked-in" to standards that fail to take account of the requirements of diverse legal systems is one that might be reduced if the process of setting standards for global electronic commerce markets is fair, open and transparent (Winn 2002b). While some of the relevant standards may be set by standard setting organizations that conform to those requirements, it is very likely that many of the relevant standards will be set in informal, ad hoc processes that that do not permit the participation of all interested parties and also produce proprietary standards. This latter form of standard setting may pose a greater risk to the possibility of developing inclusive standards that permit cultural pluralism to persist notwithstanding the global integration of markets than more traditional standard setting efforts conducted under the auspices of global organizations such as ISO, the international organization for standards.

Technical standards can be created in a wide variety of contexts. While certain technical standards are mandated by government regulation, a more important source of technical standards are groups whose membership is drawn from the affected industrial or commercial sectors who set non-binding standards through negotiation and consensus by the parties themselves. Voluntary industry-based standard setting processes date back to the nineteenth century in the United States, when the emergence of a national economy integrated by railroads and telegraph required the definition of national technical standards to guide industry and commerce (Chandler 1977). Today, non-governmental organizations such as the American National Standards Institute and industry consortia organize meetings of interested parties who jointly formulate standards to govern the development of new technologies. In an era of global economic integration,

international standard setting organizations such as the International Organization for Standards and the International Telecommunications Union play an increasing role in setting technical standards used within the U.S. economy as well.

3. GLOBALIZATION, INFORMATION TECHNOLOGY AND ECONOMIC DEVELOPMENT

Over the past two decades, the PRC has made considerable progress in liberalizing its legal system, although much remains to be accomplished before it will be capable of operating with anything like the effectiveness of the legal systems of many Western nations. In the last decade alone, a tidal wave of legislation has emanated from the central government, which has been supplemented by legislation from provincial and local authorities. Not only will it be difficult for Chinese individuals and firms to become familiar with the terms of all these new laws, the development for institutional mechanisms for their enforcement lags behind the tempo at which new laws are being promulgated. Major obstacles to the consistent enforcement of these new laws and regulations remain, including the interference of the party-state in the operation of legal institutions, the rise of clientalist institutions mediating state-society relations in a manner that subverts the effectiveness of formal legal institutions and the persistence of social networks as an alternative to law as a source of economic ordering.

Technical norms embedded in electronic commerce technologies will play an increasing role in this already volatile mix of ordering institutions. Reidenberg has labeled the normative content of information technology "lex informatica"–a sort of successor to the traditional customary law of commerce, the lex mercatoria (Reidenberg 1996). Lessig has commented at length on the ability of software to function as a sort of legal code as well as computer code, and has argued that unless attention is paid to the relationship between traditional social and legal values embodied in formal legal institutions and those embodied information technologies that control human behavior, traditional values may be undermined (Lessig 1999, 2001). While the traditional social and legal values that Lessig champions in the context of U.S. society–the classic hallmarks of civil society and liberalism–may not be the same traditional social and legal values that these technologies will threaten to erode in Chinese society, the character of the threat remains the same.

Unlike many developing countries, China has developed a wide-ranging and aggressive plan for upgrading the technological architecture of its markets (UNCTAD 2001). If any developing country has a chance to become a leader in technological innovation in the global information economy, China does because of the huge economic and human capital resources it can bring to bear on the

problem. Whether China's leaders will realize their goals of improving economic efficiency and raising the level of economic development through the effective use of technology while keeping a tight rein on the political and social uses of technology remains to be seen. In addition, because of China's accession to the WTO, it will increasingly be forced to cede control over many elements of its science and technology modernization program to market forces.

China's recent entry into the WTO is the culmination of decades of economic liberalization and opening to the West. While the process of meeting its obligations as a WTO member in terms of law reform and effective market access may be slow and painful, it seems unlikely that the general trend toward market reforms can now be reversed. In the realm of information technology, China's obligations to open its markets for telecommunications services and to strengthen the enforcement of IPR are essential parts of the process of expanding the role of electronic commerce in the Chinese economy.

Liberalization of telecommunications will have two likely effects on the growth of electronic commerce: it will increase the number of Chinese with effective access to networked computers and thus the global information economy, and it will make the government's task of controlling the content of electronic communications more difficult. Although the absolute number of individuals with Internet access is high (around 17 million in 2000), Internet users are concentrated in major metropolitan areas and penetration of Internet access in rural areas remains very limited. In 2000, the PRC government issued regulations governing the licensing of Internet access providers and establishing their liability for the transmission of prohibited content, even through the acts of third party subscribers to their services (Wang 2001). This is the opposite of the liability rule adopted in the U.S. and EU which treat Internet service providers as the equivalent of telephone service providers and shelter them from liability for third party content, rather than treating them as the equivalent of traditional publishers (Winn and Wright 2001: §2.02[B]). Through a variety of regulations, such as prohibiting portal sites from providing links to foreign news sites without government authorization, the PRC has made clear its intention to control the flow of information through computer networks in China. Whether implementation of the "Great Firewall of China" is in fact feasible remains unclear.

Part of the package of rights and obligations associated with WTO membership is compliance with TRIPS. TRIPS requires developing countries that are net importers of IPR to enact comprehensive IPR laws and to insure that they are effectively enforced. This represents merely a continuation of a process of strengthening IPR laws and enforcement that has been underway in China for at least a decade (Alford 1995). The politics of strong IPR legislation and enforcement in economic development is a topic that has been widely discussed in other contexts and is beyond the scope of this paper. The following discussion

regarding standardization of contracting procedures and communications is in some ways analogous to this debate because it focuses on the development of technical norms within core economies and their export to peripheral economies in a manner that is likely to privilege the interests of developed rather than developing countries. Given the nascent state of new, more powerful electronic contracting technologies, it will be unclear for some time how the norms embodied in that technology will affect developing countries, and whether the threat of lock in to those technical norms in the global information architecture will ever realized.

4. POSSIBLE CHINESE RESPONSES TO CROSS-BORDER ELECTRONIC COMMERCE

In China today, the volume of cross-border electronic commerce is much more significant than the volume of domestic electronic commerce, and it is likely that this asymmetry will persist for some time (UNCTAD 2001). Even taking account China's much larger economy, however, the total volume of electronic commerce transactions is behind that of Japan, which is the regional leader in use of electronic commerce technologies. Current rates of electronic commerce utilization in China also remain far behind those of Taiwan or Japan; but it is worth noting that utilization rates in Taiwan, Japan and even the EU are behind those in the U.S. domestic economy. Chinese firms today communicate with overseas trading partners using email or EDI in a manner similar to faxes or telexes–someone converts the information to human readable form and walks around the plant to give instructions based on it.

The widespread implementation of sophisticated electronic contracting technologies within China is therefore still many years away. When it is finally achieved, however, it may entail a major transformation in the internal operations of Chinese firms. The character of the transformation may include greater reliance on transparent, auditable procedures inside firms; greater sharing of transaction information with market participants outside of social networks; diminished subordination of firms to clientalist controls invoked on behalf of the Party or government officials; diminished reliance on social networks as an alternative economic ordering and greater reliance on technical norms or formal law. Assuming these are in fact the most important potential costs and benefits of greater use of electronic contracting technologies within Chinese firms, local responses may vary widely from enthusiastic embrace to outright rejection. The various possible responses can be grouped into three large categories of response: assimilation of Chinese firm behavior into Western norms of firm behavior; marginalization of Chinese firms in global markets due to resistance to the use of standardized contracting technologies; or the localization of new technologies to

current conditions in Chinese markets, easing the path to greater utilization in China while possibly raising the costs of access to Chinese markets by Western firms.

If electronic commerce technologies embody formal, rational principles of business administration that differ significantly from local custom and practice in Chinese firms (or for that matter, many small enterprises in the West), then the globalization of commerce through advances in information technology will pressure diverse local institutions to conform to Western norms. Proponents of a form of "vulgar" Weberian modernization theory would applaud this pressure as merely accelerating a necessary and appropriate change in the local business culture of developing countries (UNCTAD 2001). This pressure to assimilate to Western norms of economic behavior might act as a sort of Trojan horse bringing in the rule of law through the network architecture.

As Li Shaomin points out, however, any period of transition from significant reliance on informal norms and social networks to formal norms and Western customs and practices may increase instability in the short term in Chinese markets rather than reducing it (Li 2003). If firms make ad hoc decisions to adopt new technologies that require more formalism, transparency and accountability, it is unclear that greater rationality in economic activities will immediately necessarily result in the aggregate. Social networks that permit participants to share risk informally may be undermined by greater transparency of information and reduced ability to make ad hoc modifications in terms during the performance of contracts, yet the eclipse of the informal would not guarantee an equally rapid emergence of modern alternatives. For example, the ability of Chinese firms to engage in modern risk analysis to control and reduce risk, and to use insurance to spread risks may not increase quickly enough to offset the erosion of informal risk management systems. Ad hoc, piecemeal assimilation of modern electronic commerce systems will not guarantee greater economic efficiency unless the management infrastructure necessary to exploit fully new technologies is also in place.

Chinese firms may refrain from full participation in global markets due to reluctance or inability to make the necessary changes in business practice to adapt to the requirements of new electronic commerce technologies. This might relegate Chinese firms to more traditional, less profitable sectors of the economy, or diminish Chinese control over sectors of the economy that are most actively engaged in global competition in favor of foreign-controlled firms. The Chinese government's policy of retaining control over Internet content and access for political ends may inadvertently contribute to this kind of marginalization of Chinese firms in economic arenas if it has a chilling effect on the rate of growth of computer networks and their utilization rates by firms.

It is possible that Chinese firms will never face a stark choice between

assimilating Western norms of economic behavior or finding themselves marginalized in global markets. This is because emerging technologies of electronic contracting might emerge and achieve widespread adoption in a form capable of accommodating a wide range of diverse local business cultures. In the alternative, lock in may not emerge as a problem if the basic standards governing electronic contracting are open, public standards and competitive markets for produce a wide array of electronic contracting technologies that are interoperable and that individually permit considerable variations in firm behavior.

Recent studies of the development of "cross-border production networks" in the electronics industry in East Asia provide grounds for optimism in this regard (Borrus et al. 2000). East Asian markets for electronics became dramatically more competitive during the 1990s, yet the production networks that tied U.S. multinational firms to much smaller trading partners throughout East Asia showed signs of remarkable diversity in institutional form. Contrary to predictions that pressures to compete in global markets would produce convergence in organizational form, many production chains combined formal corporate organizations with relationship-based networks in a manner that was more responsive to changes in market conditions to production chains with more homogenous structures. During the 1990s, the Japanese experienced a major erosion in their competitive position in the electronics industry although they continued to rely on very stable, relatively inflexible relationships between Japanese multinational firms and their small and medium sized trading partners inside Japan or throughout East Asia, indicating that the choice of formal or relational structure alone was not determinative. It is therefore clear that even though global production "networks" and Chinese social "networks" are very different types of network, they are not necessarily incompatible with each other (Leung 2001). Perhaps the same holds true of global information technology networks and Chinese social networks as well.

If Chinese business practices are simply incompatible with the form and function of electronic contracting technologies developed in the West, however, then Chinese firms may have some hard choices to make. But if Chinese firms can find ways to adapt technologies developed in other contexts to make it easier for Chinese firms to adopt them, then Chinese firms would reap the efficiency and strategic benefits of greater use of new technologies while avoiding the costs of internalizing Western business norms. With regard to use of Chinese characters or conformity to PRC law, this would not be too daunting a task. But if at the core of Chinese business practices is a preference for social networks over formal institutions and relationships, then there may be a fundamental divergence between what computers are capable of doing and Chinese business conventions. This is in marked contrast with the business conventions of some other East Asian societies, such as Malaysia or Indonesia with large Muslim populations. The highly

complex and formalistic character of the rules governing commercial transactions contained in Islamic law create huge transaction costs for humans trying to comply with Islamic law, but create problems that in principle computers should be adept at solving (Winn 2002b). By contrast, the kind of opacity and particularism often characteristic of modern Chinese business practices seems almost antithetical to the formalization and standardization at the heart of new electronic commerce systems. This incompatibility with Western business conventions is further exacerbated by the slow transition from Party control over the economy, and the general lack of familiarity with Western accounting and management conventions.

It is unclear how technology standard developers can represent Chinese business norms within software systems. The highly subjective and contextualized process of subordinating the short-term self interest of a firm to wishes of the party or local government official is not something that can be modeled the same way a statutory mandate to obtain express consent to a particular, discrete transaction. If the subtle mechanisms that permit the coordination of individual, relational and governmental interests to be harmonized without explicitly articulating each one or their hierarchical relationship to one another are reduced to a formal model, then in some sense they will have been utterly transformed if not simply destroyed. A strategy for embedding opportunities for the exercise of human discretion into the operation of electronic contracting systems even if they come at the expense of greater automation and efficiency might be one way to try to resolve such a conflict.

Assuming such technological obstacles to adapting new technologies to contemporary Chinese business practices could somehow be overcome, then a proclivity for social networks as a form of business organization would not necessarily tend to exclude Chinese firms from competing in global markets. Such Chinese localized technologies might be interoperable with systems embodying Western norms, or they might be incompatible with them. If development of Chinese alternatives succeeded in fragmenting global standards, then given the size of the Chinese market, it might be possible for the Chinese to require Western firms to internalize the costs of accommodating incompatible systems, rather than permitting Western firms to impose on Chinese firms the costs of adapting to Western standards.

5. CONCLUSION

Electronic commerce technologies are undergoing profound changes that may have the effect of requiring Chinese businesses to transpose a greater number of their current business practices into formal, automated systems designed with reference to Western business practices. Social networks as a system of organizing

transactions, capital, and knowledge transfer can co-exist with advances in information technology, such as electronic commerce systems limited to telexes or electronic messages containing only price, quantity and shipping terms. As global networks become capable of automating contract negotiation and performance, however, that coexistence may be called into question. If new electronic commerce applications achieve widespread acceptance in global markets, then network effects could give the norms embedded in those technologies a mandatory quality usually reserved for law. Chinese firms could find themselves required to surrender traditional attitudes and practices to a greater extent than was required by previous forms of contact with global markets. If such changes quickly undermine the conventional bases for economic activities but only offer rewards that can be realized slowly and with difficulty, then the cost for Chinese firms may be very high at least while such a transition in business practices is taking place. However, if such changes make a positive contribution to China's economic development by lowering the costs of accessing global markets and making Chinese firms more competitive, then they may well be worth the price.

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